EPA releases its plan to clean up the Gowanus Canal Superfund Site

Community Update **March 2013**

What is Superfund?
Superfund, which was established in 1980 by Congress, gave the EPA the funds and authority to investigate and clean up polluted sites. The goals of Superfund are:

- Protect human health and the environment by cleaning up polluted sites
- Involve communities in the Superfund process
- Make responsible parties pay for work performed at Superfund sites

UPDATE

The U.S. Environmental Protection Agency has released its proposed plan for the cleanup of the Gowanus Canal **Superfund** site. The proposed plan recommends removing all of the contaminated sediment that has accumulated as a result of industrial and sewer discharges from the bottom of the canal by dredging. The dredged areas would then be capped. The EPA also recommends controls to prevent combined sewer overflows, or **CSOs**, and other land-based sources of contamination from compromising the cleanup.

Overview of Proposed Plan

The proposed plan divides the canal into three segments. The first segment runs from the top of the canal to 3rd Street, the second segment from 3rd Street to just south of the Hamilton Avenue Bridge and the third segment runs from the Hamilton Avenue Bridge to the mouth of the canal. EPA is proposing to remove approximately 307,000 cubic yards of highly contaminated sediment from the first and second segments, by dredging. For the third segment, the EPA is proposing to dredge approximately 281,000 cubic yards of contaminated sediment. The plan also calls for removing contaminated material that was placed in the 1st Street Turning Basin decades ago.

Capping in the Canal

The EPA is proposing to cap the dredged areas with multiple layers of clean material, including an "active" layer made of a specific type of clay that will remove contamination that could well up from below, an "isolation" layer of sand and gravel that will ensure that the contaminants are not exposed, and an "armor" layer of heavier gravel and stone to prevent erosion of the underlying layers from boat traffic and canal currents. Finally, sufficient clean sand would be placed on top of the "armor" layer to fill in the voids between the stones and to establish sufficient depth in order to restore the canal bottom as a habitat. In the middle and upper segment of the canal where the native sediment is contaminated with liquid coal tar, the EPA is proposing to stabilize that sediment by mixing it with concrete or similar materials. The stabilized areas would then be covered with the multiple layer cap as described above.

Treatment of the Dredged Material

The proposed plan includes different methods for managing the dredged contaminated sediment. The more highly contaminated sediments from the first and second segments of the canal would be treated at an off-site facility through thermal desorption and the resulting decontaminated material might be reused, for example as landfill cover. Thermal desorption removes organic contaminants from soil, sludge or sediment by heating them to make these contaminants evaporate. Evaporation changes the contaminants into vapors, which are in turn heated to temperatures high enough to destroy them.

What is a CSO?
A CSO happens when the flow capacity of a sewer system is exceeded during rainstorms. The mixture of stormwater and sewage overflows the capacity of the sewer system and discharges at specific outfalls. There are several outfalls along the Gowanus Canal that receive sewer overflows during storm events.

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The less contaminated sediments from the first and third segments of the canal would be stabilized by mixing with materials like cement and might be reused off-site. The plan also proposes an option that would have sediments from the third segment of the canal stabilized on-site and subsequently placed in an on-site confined disposal facility. A confined disposal facility is a specially designed structure that holds dredged sediments. The use of such a facility as part of the remedy will be evaluated based on community acceptance and approval from the New York State Department of Environmental Conservation and other appropriate authorities.

Manufacturing Gas Plants and Combined Sewer Overflows (CSOs)
Plants where gas was produced from coal, called manufactured gas plants, are being addressed by National Grid under NYSDEC oversight. EPA and NYSDEC have developed a coordinated schedule for the cleanup of these sites, which are a major source of contamination in the canal; so that they would not recontaminate the canal once it is cleaned up. In addition, the proposed plan calls for controls to significantly reduce the deposition of contaminated solids from CSOs into the canal. The EPA is concerned that such overflows would contribute to the recontamination of the canal after its cleanup. The EPA is proposing measures so that CSO discharges of solids from the outfalls in the upper portion of the canal be reduced by 58% to 74%.

Cost of the cleanup
The cost of the cleanup plan is expected to be between $467 and $504 million. The EPA has identified numerous parties that are potentially responsible for the contamination and, thus its cleanup, including National Grid and the City of New York.

SITE BACKGROUND

The Gowanus Canal was built in the mid-1800s and was used as a major industrial transportation route. Manufactured gas plants, paper mills, tanneries and chemical plants operated along the canal and polluted it. In addition, contamination flows into the canal from overflows from sewer systems that carry sanitary waste from homes and rainwater from storm drains and industrial pollutants. As a result, the Gowanus Canal has become one of the nation's most seriously contaminated water bodies. More than a dozen contaminants, including polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and heavy metals, including mercury, lead and copper, are found at high levels in the sediment in the Gowanus Canal. PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, wood, garbage and other organic substances and are also found in motor oils, tar and asphalt. PCBs were used as coolants and lubricants in transformers, capacitors and other electrical equipment and their manufacture was banned in 1979. PCBs and PAHs are suspected to be cancer-causing and PCBs can have neurological effects. In 2010, the Gowanus Canal was added to the Superfund list of the nation’s most contaminated hazardous waste sites.

Health Risks

EPA recommends that the public avoid direct contact with canal water and sediment due to risks from exposure to toxic chemicals, and the risk from exposure to elevated levels of bacteria carried in the sewage from CSOs. No one should eat any fish or crab from the canal.

Public Participation

EPA relies on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. Submit your written comments on the EPA's Proposed Plan no later than **April 27, 2013** to:

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Copies of site-related documents, including copies of the Proposed Plan are available at:

Carroll Gardens Library
396 Clinton Street
Brooklyn, NY 11231

Joseph Miccio Community Center
110 West 9th Street
Brooklyn, NY 11231

EPA- Region 2
Superfund records Center
290 Broadway, 18th Floor
New York, NY 10007

Or you can also access information online at:

www.EPA.gov/region2/superfund/npl/gowanus